# Studies on energy and protein metabolism of cats and the genetic background

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## Habilitationsschrift

zur Erlangung der Venia Legendi der
Vetsuisse-Fakultät
Universität Zürich

vorgelegt von
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**Zürich, 2013**

# Introduction

Obesity is an increasing problem in humans and companion animals, especially in dogs and cats from industrial countries. A study on bodyweight in Switzerland classified 32% of the human population as above average and 13.4% as obese (Chappuis et al., 2011). Excessive bodyweight is a result of an imbalance between energy intake and energy requirement. Lifestyle within modern society is one of the major issues, activity levels have decreased while people are still consuming highly palatable, energy rich food. One key element to enable reduction of the prevalence of obesity is to gain detailed knowledge of the physiological energy metabolism and energy requirements in both, humans and animals.

Animals are able to derive energy to maintain vital functions from the oxidation of the three macronutrients; fat, carbohydrate and protein, respectively (Flatt, 1978). This flexibility enables animals to adapt to widely different diets to satisfy their energy requirements (Chwalibog et al., 1998). Cats are strict carnivores with a unique energy and protein metabolism. Their biochemical pathways show several differences if compared to other species (e.g. dog). To date it is not absolutely clear whether these differences are real or artificially caused. Like other species, cats are able to derive energy from all three macronutrients, however their metabolism is highly specialized and requires a higher protein content (Rogers and Morris, 1982).

**References**

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